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Marshall Space Flight Center

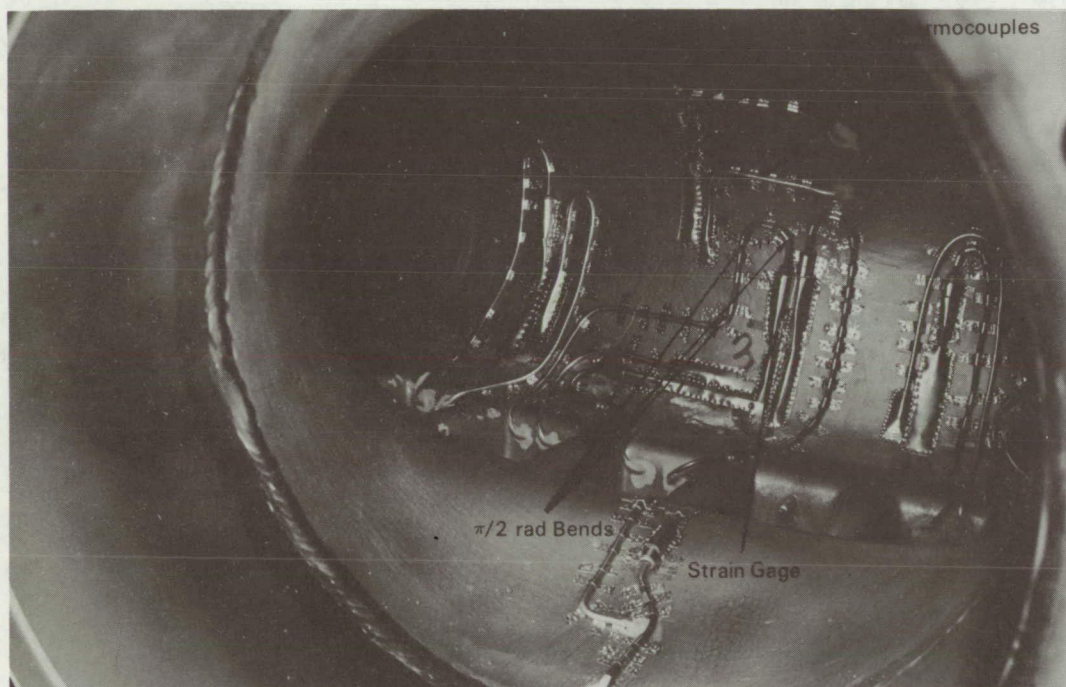


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Strain Gage Performance Above 1033 K

A study was conducted to determine the behavioral characteristics of strain gages at temperatures above 1033 K (1400° F). The study provides a compen-

After the thermal drift study was completed, the strain gages were mounted, as shown in the figure, on a constant strain beam of Inconel 750. The gage



dium of test methods and results which may be used in evaluating the performance of strain gages used in high temperature environments.

The tests were performed on strain gages developed through recent research on alloys that are stable to 1033 K, and through improvements in manufacturing and fabrication techniques. The gages were spotwelded to a section of turbine disk alloy and heated in an oven to the temperature desired. Two measurements were taken at each temperature, and the resistance to ground and the drift rate were observed over a 20 minute period.

factor variation as a function of temperature was then determined. This variation ranged from zero at room temperature (297 K) to 14.5% at 1083 K.

Note:

Requests for further information may be directed to:

Technology Utilization Officer
Code A&TS-TU
Marshall Space Flight Center
Huntsville, Alabama 35812
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(continued overleaf)

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No patent action is contemplated by NASA.

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